

SOLUTIONS

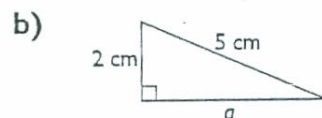
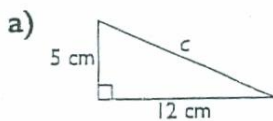
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INSTRUCTIONS: Complete all work on loose leaf. Show your work for full value. Place a rectangle around your final answer.

1. Copy and complete the table for right triangles.

a	b	c	a^2	b^2	c^2
8	15	17	64	225	289
9	12	15	81	144	225
30	40	50	900	1600	2500
18	24	30	324	576	900

2. Calculate the unknown length of the side to the nearest tenth of a centimetre.



$c^2 = a^2 + b^2$ $c^2 = (12)^2 + (5)^2$ $c^2 = 144 + 25$ $c^2 = 169$ $c = \sqrt{169}$ $c = 13$	$a^2 = c^2 - b^2$ $a^2 = (5)^2 - (2)^2$ $a^2 = 25 - 4$ $a^2 = 21$ $a = \sqrt{21}$ $a = 4.6$	$b^2 = c^2 - a^2$ $b^2 = (65)^2 - (25)^2$ $b^2 = 4225 - 625$ $b^2 = 3600$ $b = \sqrt{3600}$ $b = 60$
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3. Find the value of "c" to one decimal place.

a) $c^2 = 8^2 + 15^2$ b) $c^2 = 5^2 + 5^2$

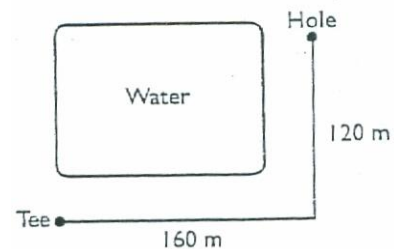
c) $c^2 = 7^2 + 13^2$

d) $c^2 = 9^2 + 2^2$

$c^2 = a^2 + b^2$ $c^2 = (8)^2 + (15)^2$ $c^2 = 64 + 225$ $c^2 = 289$ $c = \sqrt{289}$ $c = 17$	$c^2 = a^2 + b^2$ $c^2 = (5)^2 + (5)^2$ $c^2 = 25 + 25$ $c^2 = 50$ $c = \sqrt{50}$ $c = 7.1$	$c^2 = a^2 + b^2$ $c^2 = (7)^2 + (13)^2$ $c^2 = 49 + 169$ $c^2 = 218$ $c = \sqrt{218}$ $c = 14.8$	$c^2 = a^2 + b^2$ $c^2 = (9)^2 + (2)^2$ $c^2 = 81 + 4$ $c^2 = 85$ $c = \sqrt{85}$ $c = 9.2$
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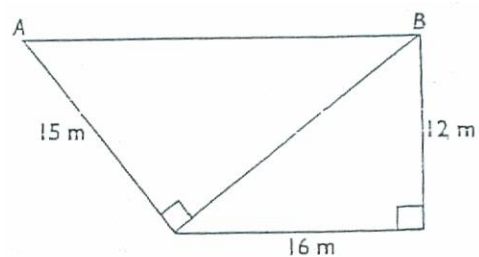
4. Amanda can normally hit a golf ball 180 m from the tee (including roll). Should she aim for the flag on the hole or take the longer route around the water? Explain.

$c^2 = a^2 + b^2$ $c^2 = (160)^2 + (120)^2$ $c^2 = 25600 + 14400$ $c^2 = 40000$ $c = \sqrt{40000}$ $c = 200 \text{ m}$	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> No she shouldn't aim for the hole but go around. </div>
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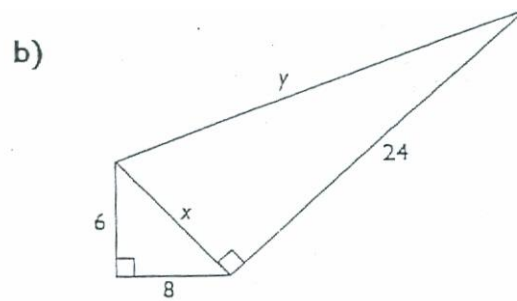
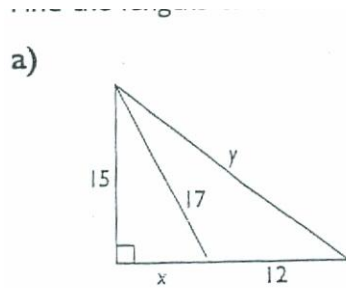


5. Which is the correct distance, to the nearest metre, from A to B.

- a) 25 m
- b) 43 m
- c) 20 m
- d) 32 m



6. Find the lengths of the unknown sides.



$x^2 = (17)^2 - (15)^2$ $(8+12)^2$ $x^2 = 289 - 225$ $x^2 = 64$ $x = \sqrt{64}$ $x = 8$	$y^2 = (15)^2 +$ $(8+12)^2$ $y^2 = 225 + 400$ $y^2 = 625$ $y = \sqrt{625}$ $y = 25$	$x^2 = (6)^2 + (8)^2$ $x^2 = 36 + 64$ $x^2 = 100$ $x = \sqrt{100}$ $x = 10$	$y^2 = (10)^2 + (24)^2$ $y^2 = 100 + 576$ $y^2 = 676$ $y = \sqrt{676}$ $y = 26$
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